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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,706	12/03/2003	Avetik Harutyunyan	23085-08287	8632

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EXAMINER	
BOECKMANN, JASON J	

ART UNIT	PAPER NUMBER
3752	

DATE MAILED: 05/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/727,706	HARUTYUNYAN ET AL.	
	Examiner	Art Unit	
	Jason J. Boeckmann	3752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *15-25* is/are allowed.

6)☒ Claim(s) *1-5,8-11,13 and 14* is/are rejected.

7)☒ Claim(s) *6 and 7* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *3/3/2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *6/30/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claim 8 recites the limitation "one portion" and "the other portion" in lines 6 and 7. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kendall et al (5,279,854) in view of Gianella et al (4,863,316).

Kendall et al shows an apparatus for injecting dry powder comprising a container (14), a means for creating aerosol (16, 20) of the dry powder (10) within the container, a conduit (18) having an inlet end and a discharge end, wherein the inlet end comprises an ejector (20) and introduces a pressurized gas into the container, the discharge end

being bifurcated (30) wherein one portion (74) connects to the ejector and the other portion discharges the powder (figure 1). Kendall et al does not specifically disclose that the conduit (18) is located at the upper portion of the container and that a shaker is provided for shaking the container vertically. However, Gianella et al shows an apparatus for injecting dry powder comprising a container (16), a means for creating aerosol within the container (23, 26, 28, 30, 32, 34, 38, 40, 42, 44), a conduit (20) at the upper portion of the container, having an inlet end (31), an opposite end (98), and an ejector (54) located between the first end (31) and the opposite end (98). The container also includes a shaker (18) for shaking the container. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to substitute the container (16), the means for creating aerosol within the container (23, 26, 28, 30, 32, 34, 38, 40, 42, 44), the conduit (20) located at the upper portion of the container, the ejector (54), and the shaker (18), of Gianella et al's invention for the container (14), means for creating an aerosol (16, 20) of the dry powder (10) within the container, the conduit (18), and the ejector (20), of Kendall et al's invention in order to better fluidize the dry particles within the container before they are picked up by the ejector to be discharged.

Regarding claim 2, the pressurized gas of Gianella et al is argon (column 4, line 18).

Examiner notes that 112 6th paragraph is not invoked by the means plus function clause in line 2 of claims 1 and 20 because the phrase "means for " or "step for " must

not be modified by sufficient structure, material or acts for achieving the specified function. See MPEP 2181.

Claims 3, 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kendall et al (5,279,854) in view of Gianella et al (4,863,316) further in view of Spaulding et al (4,561,808).

Kendall et al as modified by Gianella et al shows all aspects of the applicants invention as in claim 1, but does not specifically disclose that the ratio of the diameter of the ejector to the inlet is about 0.4 to about 0.6 and that the dry powder comprises a metal catalyst supported on a powdered oxide substrate wherein the powdered oxide substrate has a particle size of 0.5 microns to 5 microns. However, Spaulding et al discloses that the ratio of the diameter of the smallest cross-section of the ejector (34), to the inlet or the largest cross-section (31) is about 0.4 to about 0.6 (column 4, lines 35-9) and that the powdered material used in the injector is a composite metal-oxide powder having a particle size of up to 5.0 microns (column 3, lines 5-8). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to substitute the ejector (34) and powdered oxide material of Spaulding et al for the ejector (54) and powder material (14) of Kendall et al as modified by Gianella et al in order to prevent the powdered particles form getting jammed in the ejector.

Claims 8, 10 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Kendall et al (5,279,854) in view of Spaulding et al (4,561,808).

Kendall et al shows an apparatus for injecting dry powder comprising a fist end, an opposite end (figure 1), an injector (20) located between the first end and the end opposite, aerosolized dry powder (located in tube 18) confined between the ejector (20) and the end opposite wherein pressurized gas (16) is introduced through the first end, and the opposite end is bifurcated (30) wherein one portion discharges the powder and the other portion (74) connects back to the ejector (20). Kendall et al does not specifically disclose that the ratio of the diameter of the first end to the ejector is about 1.6 to about 2.5, and that the dry powder comprises a metal catalyst supported on a powdered oxide substrate wherein the powdered oxide substrate has a particle size of 0.5 microns to 5 microns. However, Spaulding et al discloses that the ratio of the diameter of the smallest cross-section of the ejector (34), to the inlet or the largest cross-section (31) is about 0.4 to about 0.6 (column 4, lines 35-9) and the powdered material used in the injector is a composite metal-oxide powder having a particle size of up to 5.0 microns (column 3, lines 5-8). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention use the composite metal-oxide powder having a particle size of up to 5.0 microns of Spalding et al's invention, in Kendall et al's invention, in order to allow for a uniform mixture of the gas and powder material. It also would have been obvious to one of ordinary skill in the art at the time of the applicant's invention, as taught by Spalding et al, and to vary the ratio of the diameter of the first end to the diameter of the ejector (20) to fall between 1.6 to 2.5 in order to allow for the particles to be accelerated at the appropriate velocity through the ejector depending on the weight of the particles and the pressure of the carrier gas.

Claims 9 is rejected under 35 U.S.C. 102(b) as being anticipated by Kendall et al (5,279,854) in view of Spaulding et al (4,561,808) further in view of Gianella et al (4,863,316).

Kendall et al as modified by Spaulding et al shows all aspects of the applicant's invention as in claim 8, but does not specifically disclose that the pressurized gas (16) is argon. However, Gianella et al shows an apparatus for injecting dry powder comprising a container (16), a conduit (20) at the upper portion of the container, having an inlet end (31), an opposite end (98), an ejector (54) located between the first end (31) and the opposite end (98) and a pressurized carrier gas that is argon (column 4, line 18). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention under the teachings of Gianella et al, to use argon as a carrier gas instead of pressurized air in order to make the output spray les reactive.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kendall et al (5,279,854) in view of Spaulding et al (4,561,808) further in view of Stein (5,727,732).

Kendall et al as modified by Spaulding et al shows all aspects of the applicant's invention as in claim 8, but does not specifically disclose that the tube (18) is composed of a material selected from the group consisting of glass, plastic, ceramic or metal. However, Stein shows a flexible aerosol delivery tube (12) that is made of copper. It would have been obvious to one of ordinary skill in the art at the time of the applicant's

invention, under the teachings of Stein, to make the tube (86) of Gianella et al out of copper to make it easier to bend yet strong enough to withstand high pressure.

Allowable Subject Matter

Claims 6, 7 and 15-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 16-19 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments with respect to claims 1-25 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kataoka et al (4,116,367) shows a powder injector with one end bifurcating with one portion returning to the ejector and the other being discharged.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason J. Boeckmann whose telephone number is (571) 272-2708. The examiner can normally be reached on 7:30 - 5:00 m-f, first Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Scherbel can be reached on (571) 272-4919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JJB JJB 5/11/06

David A. Scherbel
Supervisory Patent Examiner
Group 3700